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## Continuity and Change in Central Kalimantan : Climate Change, Monetization of Nature, and its Bearing on Value Orientations

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## **Continuity and Change in Central Kalimantan: Climate Change, Monetization of Nature, and its Bearing on Value Orientations**

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### **Introduction**

This article explores how market-based environmental intervention – along with the associated monetization of nature – affect a local population in Central Kalimantan, Indonesia. The principal focus lies on how cultural values and nature-people relations are produced via climate change mitigation which compensates reforestation activities with money, creates carbon markets in the villages, and promotes economic entrepreneurship. The empirical case presented particularly illuminates how this affects the local rubber economy, and the monetization and commodification of nature among the Ngaju Dayak in the village of Buntoi in Pulang Pisau district, in the southern part of Central Kalimantan.<sup>1</sup>

The Ngaju Dayak of this area gather various nature products and cultivate swidden rice and rubber, tending to value “immediate return” on their activities in the swamp forests in Central Kalimantan. This term and its accompanying discussion date back to an article by James Woodburn (1982) in which he argued that many hunter- gatherer societies prefer an immediate return on their labor, which promotes an ethos of solidarity and egalitarianism. According to Woodburn, as summarized by Signe Howell and Anja Lillegrave,

“these societies may be characterized by a number of features that include an egalitarian, non-competitive ethos and economies that favour ‘immediate return’ (rather than ‘delayed return’). Together, these values and practices discourage the accumulation of wealth and property and encourage sharing, resulting in what he [Woodburn, A.L.] calls immediate return societies.” (2013, p. 276)

Even though the Ngaju are also shifting cultivators, like other Southeast Asian groups with similar subsistence strategies, they have always exhibited this characteristic orientation toward immediate return and solidarity with respect to the economy and social relations (Gibson and Sillander 2012). Changes in the rubber economy and the ongoing monetization of nature in Buntoi, however, would seem to suggest the development of a contrasting value

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<sup>1</sup> This article is based on five months of ethnographic research in the village of Buntoi (2014-2016) funded by two Academy of Finland research projects: my own postdoctoral research project, “Climate change disputes, values and local reasoning,” and the collaborative project, “Contested values in Indonesia,” with Isabell Herrmans and Kenneth Sillander. Prior to my fieldwork in Buntoi I conducted two months of fieldwork in the districts of Kapuas and Palangka Raya in 2012-2013. I also want to thank KITLV for the short research period during which I explored the literature on the history of the area from the 17<sup>th</sup> century onwards. A version of this paper was presented at the Euroseas Conference in August 2015, and at the research seminar in social and cultural anthropology at the University of Helsinki in November 2015. I thank Isabell Herrmans, Kenneth Sillander, Tuomas Tammisto, and my other colleagues at the University of Helsinki for comments. A note on language: most of the discussions were in Bahasa Indonesia but sometimes people used Ngaju. During fieldwork I gained some understanding of Ngaju, but all the interviews took place in Indonesian.

orientation to sharing and solidarity in economic and social spheres: anonymity, delayed return, and accumulation. For instance, while rubber was previously collected from the mixed swamp forests and integrated with the subsistence economy and planted rubber trees, a related commodity economy has started to dominate the livelihood system. Recently, rubber estates have been established, with the latex being sold on to mills where it is turned into a commodity for the global markets. While it is a non-edible product that immediately leaves local circulation, it is nonetheless socially produced. The process of turning rubber into a commodity from its non-commodity form (Tsing 2013, p. 26.) involves the alienation of social relations that Tsing claims is built into any commodity.<sup>2</sup>

Michael Dove has coined the concept “dual economy” to refer to the contrast in Western Kalimantan between swidden cultivation and the subsistence economy on the one hand, and the rubber or market-oriented commodity economy on the other (1993, 1998, 2000, 2012). It thus refers to two distinct but complementary transactional orders: the long-term reproduction of the social and cosmological order associated with a subsistence economy, especially swidden cultivation, and an orientation toward short-term and individual benefit which is associated with rubber and a market economy (Dove 2012, p. 15; Parry and Bloch 1989). Analytically, it is important to make this distinction. I argue in this paper that the rubber economy stresses individual interests through monetary income and increases dependence on the market, while swidden rice cultivation underpins self-sufficiency in food production and sharing among kin; in short, these transactional orders imply different moral economies. This does not mean that income from the rubber economy does not contribute to running the household and long-term social reproduction – by financing education, for instance – rather, what it does is cultivate a value orientation that endorses delayed return on outlay and individual benefit. Furthermore, I argue that the rubber economy contributes to the value landscape in Central Kalimantan: when large tracts of land are used for growing rubber trees, these replace rice fields and influence swidden and subsistence livelihood systems, which are intrinsically related to value production.

I suggest that in this context it is important to ask the following: How is nature (re)valued? How is a nature product converted into a valuable commodity to be exchanged for money? What effect does this outcome have on social relationships?

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<sup>2</sup> I am not going to discuss the distinction between commodity and gift (Gregory 1982, 1997; Tsing 2013); suffice it to note that I concur with those who claim that social relationships are built into both gifts and commodities, but alienation and thus disengagement of things or goods from social relations through capitalist transactions is what makes the commodity – which, according to recent research however, may also shift in and out of its commodity form according to circumstances (see Tsing 2013, p. 22).

## Value Production and Moral Choice

In this part I explore how anthropological theorizing on cultural values could be used as an analytical tool to help understand how climate change mitigation programs affect rubber and swidden cultivation in Central Kalimantan. My starting point is Joel Robbins's definition of value as something that is considered good or desirable in human life. In his view, values "arrange other cultural elements [...] into hierarchies of better and worse or more and less desirable" (2012, p. 120). Thus, valuing is intrinsically linked with devaluing; the process evokes multiple, contrasting values, and entails a choice. Consequently:

"in all societies morality encompasses the demand that people adhere to shared models of action and the fact that people sometimes confront situations in which no single model of action is clearly best and must make moral choices between a number of models of how to proceed" (Robbins 2012, p. 118).

Robbins' idea of moral choices expresses the notion that value is relative, that it is always to be compared to something else in a given society. His discussion is based on the ideas of Louis Dumont (1980) who argued that values are hierarchically organized through opposing principles (such as right/left) in relation to the "whole" which encompasses and articulates the principles: "The whole is founded on the necessary and hierarchical coexistence of the two opposites" (1980, p. 43). In Dumont's theory of hierarchy, the hierarchical relationship "can succinctly be called 'the encompassing of the contrary'" (ibid., p. 239) and thus where opposing principles are in a hierarchical relationship, the higher-ranked values encompass the lower-ranked ones. Robbins combines Dumontian value theory with the Weberian theory of "plural value spheres," spheres which may be in conflict with each other: In principle, people have to make (moral) choices between the elements that are considered important in a specific culture (2007, pp. 296, 299; 2013). The idea that there are multiple spheres (or scales) of value indicates the importance of choice, but within a specific structure.<sup>3</sup>

The Ngaju Dayak can serve as an illustration of this point: They value solidarity and sharing, but they also value autonomy and flexibility. These different values seem to be reflected in the way swidden cultivation and the rubber economy have been organized among the Ngaju people, who have to make choices between the "models of actions". For instance, should they plant rubber trees, which might prevent them from practicing swidden cultivation? Choice, in my view, points to action. However, structuralist theory tends to stress abstract categories and understands values as objects rather than as practices that produce values. For instance,

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<sup>3</sup> The notion that all things and ideas are part of the whole and yet relate to each other as opposites is the basis of his value theory whereby ideas and objects that are in opposing relation to each other are values. Since the opposing principles are in a hierarchical relationship, one is always more desirable than the other in relation to the whole.

Graeber (2013, p. 222) argues that “value will necessarily be a key issue if we see social worlds not just as a collection of persons and things but rather as a project of mutual creation, as something collectively made and remade.”

In Graeber’s view, production is a key term when examining values: People’s actions produce what they *imagine* to be good and, as the embodiments of their choices, the results represent the exemplars around which they orient their actions. This even more clearly brings out the point that when people act in relation to the “imagined good of the society” (the actions of others), they can always imagine alternatives, that is, how things could be done differently. Graeber calls this the “politics of value” (2001, p. 88). Holism in the Dumontian sense is still present, since values are always relative (compared to other elements) and imagined and realized in society; but people’s actions entail choices, which produce values in any given time and place. Further, for Graeber, the Marxist concept of production refers to the production “of material goods *and* social relations” (2013, p. 223). In this vein, my point is to show how the rubber economy and swidden cultivation illustrate continuity and change in values. Pak Nampun,<sup>4</sup> my host during my stay in Buntoi, described value change in the following way:

“I was born in 1968 when meat did not have monetary value (*nilai*); it was bartered. It was seldom used in business (*usaha*). If we think about it, our parents rated sociality very highly. Togetherness and taking care of each other were important and desirable. Togetherness meant that they could survive because they supported each other in any circumstances. Maybe we will vanish because we ignore one another [...] People say that we are progressing (*maju*), but I say, ‘Yes, it looks like we are progressing, but in terms of morals, we are degenerating (*merosot*).’” (10.1.2015)

Pak Nampun often expressed his concern about the monetary economy in which people were selling land, trees, and gardens. His parents used to come from the forests with meat and fish which would be shared (*bagi-bagi*). In the past, Ngaju family groups used to wander together, collecting rubber latex in the natural swamp forests in which wild rubber trees grew among the other trees, and in mixed forests inhabited by different animals and spirits.

Being a frontier area (see below), Central Kalimantan has been exploited and “developed” since the Dutch colonial period, and the planting of rubber (*Hevea brasiliensis*) imported from South America expanded into Southeast Kalimantan at the beginning of the twentieth century. However, the current rapidity of change and the increased scope of new capitalist schemes and interests only really started during the Suharto era (1968-1998) and the era of decentralization (1999-) that followed.

Today, climate change mitigation programs may promote a rubber economy as a strategy for combatting deforestation or mitigating climate change through reforestation. REDD+ pilot

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<sup>4</sup> All the villager’s names are pseudonyms.

projects or demonstration activities have become widespread in Indonesia since the BALI COP13 meeting in 2007 (Wertz-Kannounikoff 2009, p. 1); there are over 30 pilot projects on the ground (the number varies since some have been stopped, restarted, and continued) (Lin et al. 2012; Resosudarmo et al. 2014, p. 69). Initially REDD (without +) aimed at reforestation and forest conservation through result-based payments and carbon trade. However, due to pressure, especially from civil society actors in the arena of global climate change negotiation, REDD+ has also become a social program that aims to reduce poverty (Howell 2014, p. 18). Since the 1990s the “community-based forestry” model has gained support among politicians and donors who mainly argue that people reap economic benefits when they have access to and control over land and natural resources (Li 2005, p. 428). Conversely, some scholars emphasize the risks of this approach, suggesting that it simply shifts the burden of reforestation and forest conservation to people at the localities. Besides which, sometimes the income from such activities is lower than that which can be earned from agriculture (Jewitt et al. 2014, p. 413; Lounela 2009, p. 201). Ultimately, the REDD+ projects focus not only on forests and land, but is also very much on humans and value creation.<sup>5</sup>

Dove claims that policies related to REDD+ are “exercises of imagination” produced by global environmentalism, which create an image of local landscapes as valuable in ways unrecognizable to the local populations (2012, pp. 252). As it is, climate change mitigation projects are said to provide models for “cost-effective” nature conservation that draws on market-based principles and individualism as a value. At the local level, projects are often justified by the urgent need to save the world from total environmental (and social) collapse and disaster, besides offering economic benefits and social wellbeing for the population in question. REDD+ suggests monetary payment for tree planting, clear ownership rights, and commodification of nature, raising the question of how money and products of nature, such as trees, relate to local, socially constituted value landscapes. A value landscape is a project of mutual creation, it is produced through both people-to-people and people-to-nature relations in a specific environment. The landscape is thus social (Tsing 2005, p. xi), including non-objectified humans, plants, forests, and spirits. In this vein, we can examine values that emerge when, for instance, rubber trees occupy large areas of the land.

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<sup>5</sup> The anthropology of climate change has mainly focused on local perceptions; production of climate science; circulation of climate knowledge and related use of language and communication; and mitigation efforts and interactions with local populations (Barnes et al. 2013, pp. 541-542). As noted by Barnes et al., climate change interventions and discussions resemble earlier debates on development: “Indeed climate change adaptation could be seen as the new development buzzword. It has become the hot topic of the moment for researchers and program directors who seek international financial support, the successor to ‘basic needs,’ ‘participation,’ ‘rights,’ and ‘sustainable livelihoods’ that led earlier waves of development intervention and funding flows to developing countries.” (2013, p. 543)

Pak Nampun told me that in the past fruit from the old communal gardens nearby was shared, and family members used to plant trees when visiting the gardens. Now, however, everybody quarrels over land borders and trees, because everything is now valued in terms of money instead of needs. Tensions and debates that concern the choices made in landscape production are clearly visible: For instance, when it comes to climate change mitigation projects, what species are selected for planting? What consequences do those choices have on values?

### **Producing a Frontier Value Landscape: Spatio-Temporal Dimensions of Value**

In this section I explore how Indonesian state formation contributes to the production of a frontier value landscape in Central Kalimantan, taking a historical view of the changes that have taken place in people-nature relations. Central Kalimantan is a unique place to conduct research on values, climate change schemes, and the revaluation of nature as it has often been represented as a frontier which

“is characteristically a physical place in rapid transition. Frontier areas tend to have low population densities and high rates of in-migration: the organs of the central state tend to be weak and consequently the law an abstract concept. Different actors compete to establish claims over the abundant natural resources that are up for grabs in a frontier context. Accordingly, violent conflicts can erupt between actors – indigenous people, pioneer farmers, bureaucrats, loggers, miners, and developers – attempting to secure their claims over natural resources.” (McCarthy 2013, p. 183)

Rapid environmental and social change has taken place in Central Kalimantan since the 1960s. However, it was at the beginning of the twentieth century when Dutch colonial rule began to take a greater economic interest in the island and its resources that the rubber plantation, timber logging, oil and mining industries entered the area. Lindblad has argued that between 1880 and 1942 Southeast Kalimantan experienced a “decisive turn” in its history due to colonial and other economic interests that were expanding in the area (1988, p. 6).<sup>6</sup> Back then, however, business was principally conducted by Bekumpai, Banjar, and Malay traders who travelled by boat to the interior of Kalimantan and negotiated the trade or barter of different forest products with the Dayak (ibid., p. 57). Commercial cash crop plantations, on the other hand, typically failed, although after the 1880s rubber and rattan cultivation was relatively successful because it could be integrated into swidden and other agricultural systems or gardens (Knapen 2001, p. 276).

Indonesia became independent from the Dutch in 1949 and a new period of state formation started in Central Kalimantan. Environmental and social change accelerated rapidly when

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<sup>6</sup> Knapen (2001, p. 5), however, who has studied the history of the area, has argued that huge environmental changes started as soon as the Dutch entered the area with their commercial interests in the 17th century.

President Suharto took power in 1967. Strong military domination – along with the mass killings of about half a million so-called communists – was established not only in Java, but also in different parts of Kalimantan. The New Order government also started to promote economic development based on the exploitation of natural resources: in 1967 it became possible to lease state land to corporations after the inauguration of the Basic Forestry Act 1967 (McCarthy 2013, p. 187). In Central Kalimantan, intensive logging has only been carried out since the 1970s when the forestry department issued permits to timber concessions, which began cutting “valuable” timber from the swamp forests. Meanwhile, many people from outside Kalimantan (transmigrants) moved, or were moved, to the area in order to benefit from this activity. When the logging corporations and later the Mega Rice Project (see below) started operations in the forests surrounding Buntoi, the villagers felt it was impossible to resist them due to the authoritarian regime. In 1990 there were 115 logging companies (HPH) in Central Kalimantan out of a total of 561 throughout Indonesia (McCarthy 2013, p. 190).

In the mid-1990s logging was followed by the Mega Rice Project (henceforth MRP) – President Suharto’s initiative to turn Kalimantan’s swamp forests into rice fields to feed all the people of Indonesia. The project was massive in scale and effect: 1.4 million hectares of swamp forests were logged and turned into vulnerable peat land that was ready to burst into flame at any time during the dry season (as large fires in 1997 and 2015 have shown). Furthermore, about 4,000 kilometers of wide, lengthy canals were cut across the landscape, a combination that was environmentally disastrous (see Galudra et al. 2010). A transmigrant program was part of the MRP scheme and was responsible for 80,000-hectare reclamation program (McCarthy 2013, p. 191). Today, swamp forests and peat land are considered carbon sinks, which have become economically valuable due to carbon credit schemes such as REDD+, a new valuation of nature that reflects the idea that nature products can be turned into commodities, as we shall see below. Further, these projects may have an impact on how access to land is organized, regulated, and contested.

### **Buntoi: Collecting and Sharing along the River**

The Ngaju elders of Buntoi claim that the village, situated on the Kahayan River, dates back to 1670, when it was called Lewuk Dalam Betawi.<sup>7</sup> According to the villagers, it has been a

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<sup>7</sup> At some point, Buntoi was also called Petak Bahandang or red land. An old woman said that this was because of local head hunting practices and attacks from neighboring communities, whereas Pak Isep said the name was due to the red land under the nearby church nearby a German missionary couple were killed in the 1870s.



trading port for the Batawian people (of the region of modern-day Jakarta) since the seventeenth century. Today Buntoi is one of eleven villages in the sub-district of Kahayan Hilir, with 2,729 inhabitants,<sup>8</sup> of whom many are immigrants (Banjar, Javanese, Madurese) who have married Ngaju villagers or moved there for work (both as loggers and rubber tappers). The first Javanese immigrants were part of the transmigrant program (*bedol desa*) between 1963 and 1965 (Oktayanty 2015, p.39). The Banjarese have been marrying into Ngaju families for a long time, while the villagers say that the Madurese were bought as slaves (*jipen* in Bahasa Ngaju) to work on their gardens collecting latex or planting cassava. Today, the village land amounts to 16,261 hectares.<sup>9</sup> Houses have been built either along the Kahayan River or on the small rivers that cut across the village and lead into swamp forests which used to be rich with flora and fauna and were accessed either on foot or by small wooden boats (*sudur* in Bahasa Ngaju). The small rivers that cut across the settlement horizontally from the main river are named after the family lineage (*sei* in Bahasa Ngaju) heads, and are inheritable or, in villagers' words, *turun temurun*, meaning that rights to land along a specific river are passed on to children.

During my stay in Buntoi (2014-2015) I settled in the "central neighborhood," close to the longhouse that had recently been renovated and was now restricted to use for tourism purposes or for important meetings. I focused principally on five "main" neighborhoods (*Rukun Tetangga*) along the Kahayan River. Behind the riverfront houses runs the asphalted main road that leads to Palangka Raya (the capital city of Central Kalimantan) in one direction and to Bahaur in the other. On the other side of the road grow the old mixed rubber gardens, whereas two to three kilometers from the Kahayan River new rubber gardens, which look more like monoculture plantations, dominate the landscape. These extend up to the big canal which traverses a number of smaller rivers – also transformed into canals – about six kilometers away from the Kahayan River. The old rubber gardens that grow close to the settlement (extending about two kilometers from the river) are mainly mixed forest gardens where bamboo, cassava, rattan, and some fruit trees are also grown. The Ngaju Dayak in Buntoi have long practiced trade and barter in rubber, rattan (most probably the *Korthalsia flagellaris*), pepper (*Piper nigrum*), agarwood (*Aquilaria*), and so forth while cultivating cassava and swidden rice and practicing horticulture.<sup>10</sup>

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<sup>8</sup> *Dokumen Perencanaan Penggunaan Lahan Desa Buntoi, Kecamatan Kahayan Hilir Kabupaten Buntoi Pulang Pisau Tahun 2014-2024.*

<sup>9</sup> *Ibid.*

<sup>10</sup> Rattan is a rainforest plant abundant in Central Kalimantan and it seems it can be re-harvested. Rattans have also been planted in the swiddens (*ladang*) in Central Kalimantan for a long time (MacKinnon et al. 1997).

In Southeast Borneo, wild latex collection (mainly *gutta-percha*) and trade flourished, and fluctuated, during Dutch colonial rule (Dove 2000, p. 214; Knapen 2001, p. 361; Lindblad 1988, p. 101). A worldwide rubber boom began around 1900 at the same time that rubber (*Hevea brasiliensis*) was first brought to Southeast Kalimantan. During this colonial period the first European rubber plantations were established, although these were concentrated in certain areas and managed by Europeans with labor (coolies) mainly from Java. In some areas, however, local people became laborers on low wages (Lindblad 1988, pp. 58-59.) Until the 1930s, European plantations were mainly worked by Banjar people, who also integrated rubber into their own gardens. This was in many ways practical as it only took a few hours per day for Banjar families to tap the latex in their mixed rubber gardens (ibid., pp. 59-61.) For the Ngaju Dayak along the Kahayan River things were different.<sup>11</sup>

Ngaju people in Buntoi told me that until logging started in the 1970s people used to travel in small wooden boats that were pushed by a wooden stick to the swamp forest located about three kilometers from the village settlement where the wild latex varieties *pantung*, *jelutung*, and the more valuable *hangkang* could be found. People gathered as much of it as they were “strong” enough to collect in one day, normally returning home at two in the afternoon: Pak Parlan told me that collecting resin was not an especially arduous job (31.1.2015). They dried the latex and sold or bartered it with the buyers that came to the village by boat or which they brought to nearby ports by boat by themselves. Barter was arranged so that traders negotiated the price of items such as rattan and rubber latex on their trading trips upriver, leaving items to the value of the goods which they would collect on their return. Pak Rajait explained that rubber trees (*Hevea brasiliensis*) were planted on their mixed gardens in the forties, but the Dutch forbade them from selling the latex as they were afraid of competition in the markets. Only after the end of the Second World War were the Ngaju Dayak able to sell the industrial rubber latex (8.5.2016). Pak Nampun mentioned the Madurese slaves (*jipen* in Bahasa Ngaju) that worked for the local Ngaju people (11.5.2014). According to Pak Isep, born in 1949, the Madurese – who suffered starvation and were brought by boats from Java to Buntoi – first lengthened rivers manually and then cultivated cassava in the 1940s and 50s (6.5.2016). From the 1950s onwards they started to work on the rubber gardens. In due time, most of the slaves became free and received or bought land from the “owners,” meaning they could cultivate their own gardens and rubber trees. While I could not confirm these narratives about slaves

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<sup>11</sup> Thomas Lindblad (1988) has written an extensive history on rubber collection and rubber plantations in Southeast Kalimantan from 1880 to 1942. While it mostly focuses on the Hulu Sungai or Barito and Mahakam areas rather than the area of my field study site along the Kahayan River, it gives a picture of the development of rubber plantations nearby.

from Madura, there were Madurese people in Buntoi who had worked for Ngaju families in their rubber gardens in the past, but now had their own land.

Collecting wild latex was connected to Ngaju subsistence practices at that time: They also practiced swidden rice cultivation, fruit gardening, and collected plants such as sago, bamboo, and kalakai, besides hunting wild boar and deer or even monkeys. Game was shared among the people living nearby; the harvest was eaten by family groups. Thus, the Ngaju Dayak were almost self-sufficient in food, but they also collected wild latex and rattan from the swamp forests and this provided them the opportunity to earn some money. These practices continued until the 1970s when the logging company arrived in the area.

### **Changes and Continuities: Making a Frontier in the Village**

During the twentieth century the Ngaju Dayak experienced dramatic changes which transformed their livelihood practices. The villagers have been planting *Hevea brasiliensis* rubber (locally called *karet*) in their gardens for decades; a head of a neighborhood once told that there were seventy-year-old rubber trees in the mixed rubber gardens (10.1.2015).

Rubber gardens more than three kilometers away have been planted on former swiddens, since the Ngaju Dayak plant rubber trees to mark more permanent rights to former swidden land, which is customary for many Dayak groups. These younger, rather monotonous rubber gardens differ from the earlier mixed forest gardens in that they tend towards monoculture (although sometimes rattan and bamboo are also grown there) indicating recent simplifications (Scott 1998).<sup>12</sup>

In the 1970s, the so-called timber period commenced when a logging company constructed a sawmill on the opposite side of the Kahayan River facing the settlement of the five neighborhoods mentioned earlier. Pak Isep said that it covered an area of about one square kilometer: “Big ships came and went,” and it certainly felt big in scale (21.1.2015).

According to some men in the village, all the most substantial trees in the area were subsequently felled to fuel it. The villagers also said that later, during the MRP (1995 to 1997), the remaining forests, excluding the forest gardens behind the houses, were “cleaned” (*pembersihan*) with heavy machinery. Pak Nampun explained that first they logged all the big *ramin* (*Gonystulus bancanus*) trees, and when those trees were gone, even economically productive rubber trees such as *jelutung* (*Dyera costalata*) were cut down.

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<sup>12</sup> James Scott (1998) has proposed that when land and natural resources became scarce the state and its officials took complex land tenure systems and practices and made them legible through state legislation. This process involved the simplification of plural rights and diverse forest types.

There are hardly any *jelutung* trees left nowadays (31.1.2015). Furthermore, the main asphalted road was built across the village in the 1990s. Now, money, loggers, rubber traders, goods, and people flow in and out of the village freely.

Prior to 2010, the provincial government made an agreement with the villagers about a big coal power plant that would produce electricity for the whole province, to be situated near the site where the sawmill had been located in the 1970s. It is to be opened in 2016. Some villagers said that they were glad about the power plant since it is “*ramai*” (crowded) there, and therefore the plant is good because it has brought development and work. Others, to my surprise, claimed that they were ready to move the whole settlement if the plant produced too much pollution.

In 2006 a plan to enlarge and deepen the rivers into canals (*handel*) was discussed among the villagers, and the village head and local government supported the idea. In the ensuing years each river was lengthened from two to approximately six kilometers, as well as being widened and deepened. The aim was to ease access to inland areas and intensify cultivation there. The digging of small canals through the peat land had probably already been initiated during the Dutch in order to ease access to remote forest products and claim rights to territories (Knapen 2001, p. 246; personal communication with the villagers 27.5.2014), and these recently enlarged canals imitate the Dutch canal model just as, it seems to me, the new rubber tree gardens imitate the colonial plantation model. Villagers formed *handel* groups (17) and distributed the land which became available, each family getting 1-2 hectares. Anybody could join the groups, but in practice they often operated on the basis of family relations, while some were organized around “river owners” who had begun cultivating the areas around the rivers in earlier times.<sup>13</sup>

The destruction of tropical swamp forests first by logging and then by the MRP, and the consequent forest fires, have been used to justify conservation and climate change mitigation schemes and the revaluation of nature in Buntoi, and in Central Kalimantan more generally. However, as is characteristic of frontier zones, changes have been rapid, large-scale, and contradictory in terms. Prior to the twenty-first century, the main external drivers were economic interests connected to land grabbing, which turned local socio-ecological life upside down in the long term. However, in the next section I will explore how the devastated peat land landscape has begun to be seen as a carbon-rich storage, which could be turned into

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<sup>13</sup> It was clear that people also sold land along the *handels* so that there were now mixed groups of people, formally called peasant groups (*kelompok tani*). Some people gained tens of hectares of land.

ecosystem services and thus become economically valuable in Buntoi, the primary field site of my research since 2014.

### **A Climate Change Mitigation Project at the Village Level**

In 2010 Central Kalimantan became a climate change pilot province. A few years later, on September 3, 2013, Buntoi was granted a Climate Communications Facilitation Center that local villagers call Bamboo House.<sup>14</sup> One of the donors making an appearance in Buntoi was USAID, a US-based governmental donor, with a program called Indonesia Forest and Climate Support (IFACS).<sup>15</sup> It called for NGOs to submit proposals on climate change mitigation in 2012. Two NGOs (POKKER SHK and Lembaga Dayak Panaruan – LDP) won the bid, garnering one billion IDR each for a year: one with the goal of strengthening the forest village unit (POKKER SHK), and the other of enhancing rubber production (LDP). USAID IFACS works on two “landscapes” in Kalimantan. The first, Ketapang landscape (nearly two million hectares), is located in West Kalimantan. Buntoi belongs to the Katingan landscape which comprises 1.7 million hectares of mainly deep peatland, swamp forests and degraded ex-MRP areas, including the Sebangau National park, parts of the Katingan and Pulang Pisau districts, and the municipality of Palangka Raya (USAID IFACS report 2015, p. 126.) It aims “to reduce carbon emissions through the control of fire and improve existing rubber production, *thus giving previously unprofitable and degraded land important value*” (italics mine, *ibid.*, p. 77).

In legal terms Buntoi village is surrounded by state forest land, which starts a few kilometers from the settlement and extends to the Sebangau conservation park. During the MRP this area was mostly deforested and canals were dug across it. At some point after the MRP ended, the land between the village gardens and the protected forest area was regulated as Forest for Other Land Uses (APL – *Areal Penggunaan Lain*), meaning that people could cultivate rubber, oil palm and so on in those areas; as a result new and old rubber trees now grow there. The protected forest (*hutan lindung*), in which village forest (*hutan desa*) – a state

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<sup>14</sup> “The Centre is a component of a larger programme in place for Reducing Emissions from Deforestation and Forest Degradation (REDD+) that is entrusted by the President of the Republic of Indonesia (RI) for Central Kalimantan. *Bupati* of Pulang Pisau, Mr. H Edy Pratowo SSos MM said in his speech that he considers the Climate Communications Centre placement in Buntoi Village, one of the areas classified as a vulnerable hotspot, very appropriate” (<http://www.unorcid.org/index.php/redd-in-the-news/from-the-provinces/185-in-buntoi-village,-redd-programme-begins> – a quote retrieved February 4, 2015).

<sup>15</sup> USAID wished to “capitalize” on the Indonesian REDD+ Agency (that was shut down in 2015), and it subcontracted PT Hydro Program with five different carbon emissions projects or “Project Concept Notes” in five areas, including Pulang Pisau and Buntoi. Even though it is not called an REDD+ project, it could be included in that scheme in the sense that it aims at carbon emissions reduction through the commodification of nature and reforestation by, for instance, rubber planting. In an interview a USAID staff member mentioned that they wished to develop carbon trade in the Katingan landscape (5.2.2015).

regulated community forestry entity – is located, begins approximately six to nine kilometers away from the settlement.<sup>16</sup> There is a production forest area between the APL and the protected state forest area, but its borders are currently the subject of debate between the villagers and officials. In landscape terms, 7,025 hectares of the approximate total 16,000 hectares of the village has been reserved as village forest (*hutan desa*) where the villagers may not hunt, cut timber or cultivate rice, but where they can collect non-timber forest products such as honey, rattan, and so on. Some one hundred hectares of the village area are reserved for wet rice cultivation (*cetak sawah* and *surut pasang*, or tidal rice fields).<sup>17</sup> New rice fields (*cetakan sawah*) covering 83 hectares were opened on the borders of the village forest and were claimed by a couple of villagers during my stay, causing a new land dispute. After the village forest (*hutan desa*) received legal recognition with assistance from POKKER SHK in 2012,<sup>18</sup> USAID IFACS claimed that a rubber economy would bring economic benefits to the villagers and would discourage them from cutting or burning the natural forests. As noted in the final report:

“It has been long understood that Central Kalimantan is particularly susceptible to forest and peat land fires. When an economic crop is present, farmers and landlords are more responsive to putting out neighboring fires and will take greater care to reduce the conditions that may lead to fire in the first place. The presence of profitable stands of rubber is expected to deter additional burning that releases massive amounts of GHG and particle pollutants.” (USAID IFACS final report, 2015, p. 76)

Rubber needs empty land and this could be found around the rivers that had been transformed into canals after 2006, while rubber production activities demanded new organization at the village level, leading to the formation of a rubber tappers’ business group (KUBK). The aim of the USAID IFACS program was to plant rubber trees on 25 hectares by 2015, when the project would end (temporarily). The final report of USAID IFACS describes some of its activities and KUBK as follows:

“KUBK, Rubber Farmer Business Model in Central Kalimantan. The KUBK is an informal and non-registered entity, structurally derived from the Indonesian cooperative model. The terminology, *Kelompok Usaha Bersama Karet*, was developed by an IFACS grantee, Lembaga Dayak Panarung (LDP). Each KUBK has a Chairman, Secretary, and Treasurer. IFACS staff and partners introduced the KUBK structure in response to a perceived need to organize rubber farmers at the village level. The KUBKs were formed to enable the rubber farmers to capture higher value by upgrading their rubber to meet the industry standard, or SIR20 Standard, and then selling directly to the factories.” (ibid.)

And further:

“Demonstrated Income Increase from participating in KUBKs. From an IFACS analysis, the members participating in this system realize a 25-28% income increase by marketing their rubber through the

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<sup>16</sup> In an interview, the provincial forest department staff (*dinas kehutanan*) noted that the current protected forest area was established in 2012, a year before it was granted village forest status in Buntoi. This means that the management of the village forest differs from what it would be if it were on the state production forest area. (9.5.2016).

<sup>17</sup> *Dokumen Perencanaan penggunaan lahan desa Buntoi. Kecamatan Kahayan Hilir Kabupaten Pulang Pisau tahun 2014-2024.*

<sup>18</sup> Forestry Minister Decree SK.586/Menhut-II/2012.

KUBK. This generates increased interest amongst farmers, leading to farmers not previously connected to IFACS or the CCLA process registering to join. The KUBK model is still new, and is currently establishing itself as a village level cooperative business. However, the model provides interested community members with additional opportunities to develop their social capital and improve their livelihoods.” (USAID IFACS Final Report 2015, pp. 68-69)

The role of the KUBK, with the assistance of the LDP, is to educate villagers in latex management so that its quality improves and its price rises, particularly as the KUBK would be collecting and drying latex to sell directly to the latex factories, thus getting higher prices than offered by brokers at the village level. Furthermore, it could connect tappers with the bank which could give them, for instance, micro loans.

However, despite the donor’s claim that the income of farmers participating in KUBK has increased by 25 or more percent, I found the Buntoi KUBK storage house empty in January 2015. In our discussion at his home, the KUBK head told me that they were unable to persuade villagers to be active in the organization or to sell their latex through it; there had been some activity but it had stopped a number of months earlier. The rainy season was clearly one reason for this, since it is difficult to tap latex when it is raining. Furthermore, rubber prices had fluctuated and decreased dramatically; during the previous two years very low market prices had prevailed (around 6,000 IDR/kg compared to about 15,000-20,000 IDR/kg before that). He further added that if the price of wet and dry rubber is almost the same, people will not dry their latex and then wait for a week or a month to get paid. The treasurer of the Buntoi KUBK told me that villagers were stuck in the old pattern (*pola lama*): the latex was wet and dirty, but because the price of wet latex was almost the same as that for dry, the villagers preferred to get their money immediately (*langsung*) rather than waiting for the latex to dry; “S/he gets it [money] today; it is used up today” (12.1.2015). This resembles what the USAID IFACS staff told me on another occasion in an interview. It is a paradigmatic problem: the villagers do not want to be troubled (*repot*); they have previously had it easy, receiving payment immediately; and they do not understand the process (5.2.2015). Some villagers told me that the KUBK method of drying latex took some time and the resulting product could only be sold to the mill once every four weeks while they could sell wet latex through brokers – though at a lower price – and get money the same day that they tapped the rubber.

Ultimately, after two years of training villagers to produce dry latex and form a rubber tapper’s organization, after planting 35 hectares of rubber trees on the shared land along the canals, as well as building a new storage unit (*gudang*) costing 75 million IDR, there was

virtually no resultant activity and it seemed that many villagers were simply not willing to sell their latex through the KUBK.<sup>19</sup>

Ngaju people told me that they value rubber tapping because they can decide how much they work per day, how many days per week, and if they choose not to do it at all, they can source their livelihoods from elsewhere. On the other hand, Pak Nampun complained that nowadays the Ngaju make themselves dependent on only one source of cash income at a time: if it is pepper, it is only pepper, if – as nowadays – it is rubber, it is only rubber (11.5.2014). This is not completely true: there were people who sold fruit (especially *rambutan* and *durian*) and rattan. Pak Nampun's wife, Ibu Nampun, had become an oil and gas broker during the period Pak Nampun was village head, although she was clearly an exception among the village people. However, Pak Nampun's argument can be understood in terms of values: what he was referencing was a loss of flexibility that is considered a key value among the Ngaju people.

One could suggest that villagers are reluctant to wait for four weeks to get dry latex because of money shortages (poverty). However, this is not the whole reason, because villagers could get part of the price immediately, the rest following when the organization actually sold the latex to the mill (at least so I was told). Their wish to sell latex directly and on their own behalf, receiving the cash immediately, rather seems to point to the value of autonomy, as Pak Isep expressed it when we were fishing on the Kahayan River in 2015: "I have never worked for other people; I want to decide for myself – only those who don't have gardens are forced to work for wages (*upah*)" (21.1.2015). With regards to value production, we could argue that money received from rubber seems to be understood in terms of immediate returns, as noted at the beginning of this article. Immediate return societies share and consume their harvests and hunted game as soon as they get it while, according to research which has studied such groups, practices leading to immediate return go hand in hand with solidarity and an egalitarian and non-competitive ethos. Could it be that money is viewed with a sense of immediacy, often circulating as soon as it is received, among the Ngaju? A theoretical discussion of money by Bloch and Parry (1989) invokes the theories of Simmel and Marx:

"Unlike Simmel, who sees money itself as the principal catalyst for the transformation of social life, Marx's treatment links it to the (for him) more fundamental phenomenon of production for exchange – this being what ultimately creates the need for an abstract money medium. For both writers, however, money is associated with, and promotes, the growth of individualism, and the destruction of solidary communities." (1989, p. 4)

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<sup>19</sup> The KUBK head told me that USAID IFACS funded 25 hectares, while the villagers planted 35 hectares on their own. I travelled to the area in 2016 and all the planted rubber trees had been burned during the forest fires taking place in the village area in 2015. In 2016, some villagers said they wanted to sell latex through the KUBK, but the organization had lent bank credit money to some villagers or it had been used up for other purposes (it was unclear), and as a result was now unable to buy latex from the villagers anyway.



In this line of thought, money is seen as problematic since, as a generalized yardstick, it dissolves social bonds and “reduces differences of quality to those of merely quantity” (Bloch and Parry 1989, p. 6). However, as Bloch and Parry note, even in the domain of the market social bonds and obligations do exist and it is not simply money that transforms relationships (ibid., p. 8). This resonates with Polanyi’s idea that “the economy is ‘embedded’ in society and subject to its moral laws” (ibid, p. 9). The point I am making, based on empirical observation, is that many villagers wanted immediate return on their work as rubber tappers. However, money received from latex sales is often spent on food and consumer goods right after receiving it, while some of the villagers save rubber money for their children’s high school and further education. In this sense wealth has not been accumulated (Howell 2012, pp. 52-54), indicating equality as an important value. On the other hand, it simultaneously increases dependency on the market and a growth in individualist orientation as sharing practices decline, pointing to the short-term reproduction of the social order (Parry and Bloch 1989).

Dove (1993) argues that swidden cultivation and the rubber economy are directly linked to local cultural values. For instance, among the Kantu people in West Kalimantan rubber cultivation differs from swidden rice cultivation in terms of associated value orientations, but the same people hold these differing values. Dove further argues that “rubber kills the land” (2012, p.146), meaning that land under rubber represents short-term reproduction because it is individually managed and its returns are take the form of individual benefits. This is in contrast to swidden rice cultivation which contributes to long-term social reproduction through collective labor, distribution of the harvest, and subsistence agriculture. However, in Borneo, swiddens and the rubber economy have often been integrated with each other as complementary parts of a whole. Among the Kantu:

“The great value of the rubber-swidden combination is that it achieves not just minimal competition for resources but mutual enhancement of resource use. This, in turn, enables politically and economically marginal farmers to participate in the market economy to a remarkable extent on their own terms as opposed to the market's, thereby avoiding many of the risks that the latter entails.” (Dove 1993, p. 145)

The Ngaju moral economy of rubber in Buntoi is interesting, since it is not as individual-oriented as Dove claims: The rubber economy has long been based on the practice of collecting wild latex from the swamp forests; families move around in groups; and sociality also includes non-humans. In the course of time rubber cultivation led to the adoption by some Ngaju families of immigrant people (Madurese) who shared in the latex harvest with the land owners. Even today some families have laborers in their rubber gardens who share in

the harvest, though this sharing is not possible if the price of latex is too low unless there are other resources in situ as well.

In Buntoi swidden rice cultivation has traditionally been performed in family groups with men and women working together. Rice was usually distributed among family members who could store it, even beyond the household, and on some occasions leftovers were sold; it was subsistence agriculture that did not exclude the cash economy, but provided a degree of self-sufficiency in food production. When I stayed in the village during the rainy season in 2015, some people tapped rubber even though it was not the proper time to do so. This is probably nothing new, since Dove also notes that the Dayak may tap rubber when rice is not quite ready to be harvested (Dove 1993, p. 140). However, even more interestingly, the Ngaju I talked to did not cultivate swidden rice in 2015. In fact, many women said they had nothing to do (tap rubber, cultivate rice, etc.) and young men worked on construction in the coal power plant on the other side of the river or mined for gold further along the Kahayan.<sup>20</sup>

Rubber trees occupied large tracts of land but the price of latex had fallen to such a level that the villagers were reluctant to tap it at all. At the same time, shifting cultivation had become difficult due to land use pressure created by the newly established forest village unit in the protected forest area and the fear of burning rubber trees belonging to someone else.

The social consequence of the rubber economy seems to be that it discourages subsistence agriculture and “kills the land” – while at the same time turning people into consumers who are in constant need of money: they buy phones, motorcycles, and televisions, and have to pay electricity bills. New brick and cement houses, requiring cash, are being built in the village and some people have bought larger tracts of land for their rubber gardens. All in all, there was a need for money on a regular basis which seems to be one reason for selling “dirty” latex instantly. But, as some villagers noted, the old model (*pola lama*) of immediate returns still survives among the villagers, pointing to continuing value being placed on solidarity and an egalitarian ethos.

## **Conclusions: Continuity and Change in Value and Landscape Production**

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<sup>20</sup> I wish to thank Michaela Haug for her comment that the Dayak may seek income elsewhere than in swidden cultivation if there are other alternatives. It is clear, though, that Ngaju people in Buntoi also declined to practice swidden cultivation in 2015 because they were afraid that they would burn rubber trees belonging to other villagers, not because they had other livelihood alternatives. However, my recent visit to Buntoi in 2016 revealed that forest fires had reached the village in autumn 2015, burning large areas of rubber gardens, and for that reason villagers cultivated rice on that land.

At the beginning of this article I posed three questions: How is nature (re)valued? How is a nature product converted into a valuable commodity to be exchanged for money? What effect does this outcome have on social relationships?

Firstly, nature is (re)valued by the climate change mitigation program discussed in this paper. It encourages rubber cultivation by supporting rubber planting and a rubber tappers' organization, networking with banks and organizing rubber management training in the village, and it integrates people into the market economy. In these ways, it affects the production of a value landscape.

The rubber economy encourages increasingly individualistic orientation in terms of the changing land tenure system and a decline in the subsistence economy and sharing practices. However, the rubber economy is not necessarily born from a capitalist desire among the Ngaju people to accumulate wealth, as they may spend their monetary earnings immediately, although they may also store "wealth" in jars, education, and rice.<sup>21</sup>

Meanwhile, the cultural values associated with rubber have changed over the years. While latex from local wild trees was once collected from the swamp forest and bartered or traded with people travelling to or from the village by boat, the new rubber trees are planted according to a monoculture model on private land and their produce is exchanged for money. Some rubber estates have also grown in size. Thus, rubber production is increasingly alienated from the social relations within Buntoi.

Secondly, rubber is increasingly disconnected from the swiddens with which it used to form the basis of the local dual economy. Through swidden cultivation, hunting and gathering Ngaju Dayak have tended to stress immediate returns, which are related to the distribution of wealth and promotes egalitarian social relations, with solidarity as an important value. The climate change mitigation program by USAID IFACS in Buntoi encouraged new methods of rubber management, proposing that rubber latex should be sold to mills and production could be funded by loans from banks. The donors and some state officials encouraged villagers to become rubber entrepreneurs. On the other hand, becoming an entrepreneur is not an easy thing to do when the whole ecosystem has been altered, overlapping claims and definitions of natural resources complicate cultivation and nature management practices, as well as social relationships, and the local subsistence system is changing.

Thirdly, because of the plurality of the backgrounds of the people involved, the changes in the environment and politics, and the effects these have had on social relations, there is a constant debate about what to plant and what kind of livelihoods one should choose. Some

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<sup>21</sup> Jars or old vases have been used for storing food, but they are also places for spirits, thus indicating power and wealth.

wish to practice swidden rice cultivation, some want to establish oil palm plantations, and some practice rubber cultivation and the collection of non-timber forest products. These are choices with both social and environmental consequences, and they also indicate what the Ngaju consider good or proper. Many people regard subsistence economy and sharing as important practices that reinforce solidarity and egalitarian social relations, but at the same time there is a growing sense of differentiation, alienation, and dependence on the markets. Money does not necessarily indicate accumulation of wealth, but in the rubber economy it increasingly points to delayed returns and savings, and thus adverse value.

Monoculture rubber gardens cover increasingly large tracts of land and canals are created across peat swamps. Interestingly, climate change mitigation schemes bring to mind the ways that the Dutch colonial power, and later the independent Indonesian state, encouraged permanent settlement and agriculture through private land ownership and commodity crops. In a similar way rubber cultivation promotes a monetary economy and individualism, which form value exemplars for Buntoi villagers.

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